List of Current Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1 - 15 (Cancelled).

16. (New) A modular measuring device, comprising:

a sensor module having a sensor compartment, in which a physical-to-electrical sensor is arranged;

an electronics module, having an electronics compartment, in which a measuring device electronics is arranged;

a first connecting element mounted on said electronics module and electrically connected with said measuring device electronics; and

a second connecting element mounted on said sensor module and electrically connected with said sensor;

wherein:

said sensor module and said electronics module are releasably, mechanically connected together, accompanied by the formation of a connecting compartment lying between said sensor compartment and said electronics compartment, preferably a connecting compartment sealed fluid-tightly, and/or pressure-tightly, relative to a surrounding atmosphere;

said two connecting elements are electrically, preferably galvanically, connected together, so that said measuring device electronics and said sensor are electrically coupled together; and

said two connecting elements, connected together, are accommodated in the connecting compartment formed between said sensor compartment and said electronics compartment.

17. (New) The measuring device as claimed in claim 16, wherein:

at least one of said two connecting elements is movably mounted.

18. (New) The measuring device as claimed in claim 16, wherein:

at least one side wall of at least one of said two connecting elements has at least one essentially straight groove and at least one side wall of said connecting compartment has at least one, essentially straight projection corresponding with said groove of said connecting element; and the projection of said connecting compartment is received by said groove of said connecting element.

19. (New) The measuring device as claimed in claim 16, wherein:

at least one side wall of at least one of said two connecting elements has at least one essentially straight projection and at least one side wall of said connecting compartment has an essentially straight groove corresponding with the projection of said connecting element; and

the projection of said connecting element is received by the groove of said connecting compartment.

20. (New) The measuring device as claimed in claim 18, wherein:

at least one of said two connecting elements has electrically conductive, plug elements directed essentially in parallel with one another; and

the other of said two connecting elements has electrically conductive, socket elements directed essentially in parallel with one another and corresponding to said plug elements;

said plug elements are inserted into said socket elements and so contact said socket elements, that said sensor and said measuring device electronics are electrically connected together; and

said plug elements and said socket elements are directed essentially in parallel with said at least one groove of said connecting compartment and/or with the at least one projection of said connecting compartment.

21. (New) The measuring device as claimed in claim 20, wherein:

both said plug elements and said socket elements protrude into said connecting compartment.

22. (New) The measuring device as claimed in claim 20, wherein:

at least one of said plug elements and/or at least one of said socket elements is mounted laterally and/or rotatably movably within said connecting element of which it is a part.

23. (New) The measuring device as claimed in claim 18, wherein:

for preventing an erroneous assembly of said sensor module and said electronics module, the at least one projection of said connecting compartment and said connecting element groove corresponding with such are so arranged, that an installed position of said sensor module relative to said electronics module is uniquely determined.

24. (New) The measuring device as claimed in claim 18, wherein:

for preventing an erroneous assembly of said sensor module and said electronics module, the at least one groove of said connecting compartment and said connecting element projection corresponding with such are so arranged, that an installed position of said sensor module relative to said electronics module is uniquely determined.

25. (New) The measuring device as claimed in claim 16, further comprising:

an essentially ring-shaped seal, which is so arranged in said connecting compartment, that it laterally surrounds at least one of said two connecting elements and contacts with an external side at least one side wall of said connecting compartment.

26. (New) The measuring device as claimed in claim 25, wherein:

said seal is arranged coaxially, especially concentrically, with the surrounded connecting element.

27. (New) The measuring device as claimed in claim 25, wherein:

said seal is arranged within said connecting compartment in the region of a peripheral gap in the side wall of said connecting compartment, and lying between said connecting element and side wall of said connecting compartment.

28. (New) The measuring device as claimed in claim 25, wherein:

said seal has on its outside, contacting the side wall of said connecting compartment, two sealing lips extending essentially in parallel with one another.

29. (New) The measuring device as claimed in claim 27, wherein:

said seal is so arranged in said connecting compartment that the two sealing lips extend essentially in parallel with said gap in the side wall of said connecting compartment.

30. (New) The measuring device as claimed in claim 29, wherein:

said seal is so arranged in said connecting compartment that said gap in the side wall of said connecting compartment extends essentially between the sealing lips of the seal.